

IN THE CLAIMS:

Please CANCEL claims 5-9 without prejudice or disclaimer. Please AMEND various claims and ADD new claims in accordance with the following:

1. (Currently Amended) A manufacturing method for an optical waveguide device, comprising ~~the steps of~~:

forming an optical waveguide in a substrate having an electro-optic effect, said substrate having upper, lower, and side surfaces;

forming an SiO₂ film on said substrate;

forming silicon (Si)Si films on said SiO₂ film, the lower surface of said substrate, and at least a part of the side surface of said substrate to thereby make a conduction between said Si film formed on said SiO₂ film and said Si film formed on the lower surface of said substrate;

applying a photoresist to said Si film formed on said SiO₂ film;

patterning said photoresist so that a portion of said photoresist corresponding to said optical waveguide is left attached on said Si film;

forming a groove on said substrate along said optical waveguide by reactive ion etching;
and

removing said photoresist and said Si films.

2. (Currently Amended) The manufacturing method according to claim 1, wherein said substrate comprises a LiNbO₃ substrate, and ~~said step of forming~~ said optical waveguide comprises ~~the step of thermally diffusing~~ titanium (Ti)-Ti in said LiNbO₃ substrate.

3. (Currently Amended) The manufacturing method according to claim 1, wherein ~~said step of forming~~ said Si films is performed by sputtering.

4. (Original) The manufacturing method according to claim 1, wherein said photoresist comprises a conductive photoresist.

5. – 9. (Cancelled).

10. (New) A method for manufacturing an optical waveguide device, comprising:
forming an optical waveguide in a substrate having an electro-optic effect;

forming an SiO_2 film on the substrate;
forming a silicon (Si) film on the SiO_2 film to thereby make a conducting connection between the Si film and the SiO_2 film;
applying a photoresist to the Si film formed on the SiO_2 film;
patterning the photoresist so that a portion of the photoresist corresponding to the optical waveguide is left attached on the Si film;
forming a groove on the substrate along the optical waveguide by reactive ion etching.

11. (New) The manufacturing method according to claim 10, wherein the substrate comprises a LiNbO_3 substrate, and said forming the optical waveguide comprises thermally diffusing titanium (Ti) in the LiNbO_3 substrate.

12. (New) The manufacturing method according to claim 10, wherein said forming the Si films is performed by sputtering.

13. (New) The manufacturing method according to claim 10, wherein the photoresist comprises a conductive photoresist.

14. (New) A method for manufacturing an optical waveguide device, comprising:
forming an optical waveguide in a substrate having an electro-optic effect;
forming an SiO_2 film on the substrate;
forming a silicon (Si) film on the SiO_2 film to thereby make a conducting connection between the Si film and the SiO_2 film;
applying a photoresist to the Si film formed on the SiO_2 film;
patterning the photoresist so that a portion of the photoresist corresponding to the optical waveguide is left attached on the Si film;
forming a groove on the substrate along the optical waveguide by reactive ion etching;
and
the substrate comprises a LiNbO_3 substrate, and said forming the optical waveguide comprises thermally diffusing titanium (Ti) in the LiNbO_3 substrate.

15. (New) The manufacturing method according to claim 14, wherein forming the Si films is performed by sputtering.

16. (New) The manufacturing method according to claim 14, wherein the photoresist comprises a conductive photoresist.